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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,234	09/29/2000	Ryuji Nishikawa	YKI-0056	9974

7590

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EXAMINER
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NGUYEN, KIMNHUNG T

ART UNIT	PAPER NUMBER
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2674

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DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/676,234

Applicant(s)

NISHIKAWA, RYUJI

Examiner

Kimnhung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-14 is/are allowed.
- 6) ☐ Claim(s) 2-4 and 15-23 is/are rejected.
- 7) ☐ Claim(s) 5-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

This application has been examined. The claims 2-23 are pending. The examination results are as following.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art of figures 1, 2A-2B (admitted by Applicant) in view of Ozawa (US 6,194,837).

Prior Art of figures 1-2 discloses an EL display device having a plurality of display pixels (20, see figure 1) comprising an EL element having an emissive layer (23, figure 2B) between first and second electrodes (see anode 6 and cathode 25); a first thin film transistor (TFT 1) having a first conductive region formed of a semiconductor film (see figure 1) and connect to data line, and a gate electrode should be connected to a gate line, and a second conductive region, and a second thin film transistor (TFT4) having a third conductive region formed of a semiconductor film ( see figure 2B), and an inherent connected to a power source line of EL element is connected to a power lines source line. However, Prior Art of figures 1-3 does not disclose the second TFT having a fourth conductive region connected to the EL element. Ozawa disclose in figures 3 and 6, a second TFT (30) having the conductive regions or the third and fourth conductive region

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(see column 7, lines 53-67, and column 8, lines 1-17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of using the conductive region (fourth conductive region) and connected to EL element as taught by Ozawa into the EL device having first and second TFT of Prior Art of figures 1-2 because this would for providing the pixel regions across a common power supply.

3. Claims 3-4,15-18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art of figures 1-2 admitted by Applicant in view of Yanagisawa (US 4,759,610).

Regarding claims 3-4, 23, Prior Art of figures 1-3, discloses an EL display having a plurality of display pixels comprising an EL element having an emissive layer between first and second electrodes, and thin film transistor having first and second conductive regions formed of a semiconductor film as discusses above. However, they do not disclose a light shield film for shielding light emitted from said EL element is provided between said EL element and an interface between said one of conductive regions connected to said EL element and a channel of said thin film transistor, said light shielding film is conductive; and the first or second electrode of thin film transistor also function as said light shielding film. Yanagisawa discloses a light shield film (28) for shielding light emitted from EL (see abstract), said light shielding film is conductive (see light shield layer comprising a metal film formed of Al, Mo or Cr..., see column 3, lines 40-46); and the TFT also function as light shield film (see column 3, lines 40-46), and an inherent light shield film is electrically connected to the power source. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of using light shield film for light emitted from EL and is conductive

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as taught by Yanagisawa into an EL display having a plurality of display pixels comprising EL element having an emissive layer between first and second electrodes, and thin film transistor having first and second conductive regions formed of a semiconductor film as discusses above because this would for providing the shielding which do not transmit light through the substrate.

Regarding claims 15-17, Prior Art of figures 1-2, discloses an EL display having a plurality of display pixels comprising EL element having an emissive layer between first and second electrodes, and thin film transistor having first and second conductive regions formed of a semiconductor film, Yanagisawa discloses light shield film for light emitted from EL as discusses above and should have an inherent opening for a portion of said EL element corresponding to a pixel is provided in a layer underlying said thin film transistor (see column 3, lines 40-46 and column 4, lines 67-68, column 5, lines 1-5).

Regarding claim 18, it would have been obvious for Prior Art of figures 1-2 and Yanagisawa 's display to have the opening of the light shielding film is located inner than an outer edge of an emissive region of the EL element as claimed since such a modification would have involved a mere change in the location of a device. Change in location is generally recognized as being within the level of ordinary skill in the art, absent unexpected results.

4. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art of figures 1-2 admitted by Applicant in view of Ozawa (US 6,194,837) and in view of Yamada et al. (US 6,072,450).

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Prior Art of figures 1-2 discloses an EL display device having a plurality of display pixels (20, see figure 1) comprising an EL element having an emissive layer (23, figure 2B) between first and second electrodes (see anode 6 and cathode 25); a first thin film transistor (TFT 1) having a first conductive region formed of a semiconductor film (see figure 1) and connect to data line, and a gate electrode should be connected to a gate line, and a second conductive region, and a second thin film transistor (TFT4) having a third conductive region formed of a semiconductor film ( see figure 2B). Ozawa discloses the second TFT having the fourth conductive region as discusses above. However, Prior Art of figures 1-2 and Ozawa do not disclose a light shield film having an opening corresponding to an emissive region of said EL element is provided in a layer underlying said second thin film transistor, wherein said light shield film is electrically connected to a power source of said EL element, and wherein the opening of said light shield film is located inner than an outer edge of an emissive region of said EL element. Yamada et al. disclose a light shield film having an inherent opening corresponding to an emissive region of said EL element is provided in a layer underlying said second thin film transistor (see figures 17 and 19, see column 15, lines 17-22), wherein said light shield film is also an inherent electrically connected to a power source of said EL element. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of using light shield film for light emitted from EL as taught by Yamada et al. into an EL display having a plurality of display pixels comprising EL element having an emissive layer between first and second electrodes of Prior Art of

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figures 1-2 and Ozawa as discusses above because this would for providing the shielding which do not transmit light through the substrate.

Regarding claim 22, it would have been obvious for Prior Art of figures 1-2 and Ozawa's display to have the opening of the light shielding film is located inner than an outer edge of an emissive region of the EL element as claimed since such a modification would have involved a mere change in the location of a device. Change in location is generally recognized as being within the level of ordinary skill in the art, absent unexpected results.

***Allowable Subject Matter***

5. Claims 8-14 are allowed.
6. Claims 5-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to an EL display device having a plurality of display pixels comprising an EL element having an emissive layer between first and second electrodes, and a thin film transistor having first and second conductive regions formed of a semiconductor film, and a light shield film for shielding light emitted from said EL element. The combination of the closest prior art of figures 1-2, Yanagisawa and Yamada et al. show a similar system which also disclose an EL element having an emissive layer between first and second electrodes, and a thin film transistor having first and second conductive regions formed of a semiconductor film, and a light shield film for shielding light emitted from said EL element. However, they fail to teach a

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second light shield film is provided between a transparent substrate on which said thin film transistor is formed and said thin film transistor as claim 5, or a light shielding film for shielding light emitted from said EL element is provided between said EL element and an interface between a channel and said fourth conductive region of said second thin film transistor as claim 8, or a light shield film for shielding light emitted from said EL element is provided over the semiconductor film forming an active of said first thin film transistor and located between said active layer and said EL element as claim 12.

***Response to Arguments***

7. Applicant's arguments filed on 5-19-04 have been fully considered but they are not persuasive in view of the new ground(s) of rejection.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number (703) 308-0425.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on (703) 305-4709.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D. C. 20231

**Or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only).**




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Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,  
Arlington, VA Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 306-0377.

Kimnhung Nguyen  
June 24, 2004

  
RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600  
6/25/04